

# PATENT COOPERATION TREATY

REC'D 25 APR 2005

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From the  
INTERNATIONAL SEARCHING AUTHORITY

## PCT

To:

see form PCT/ISA/220

### WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/B2005/050467

International filing date (day/month/year)  
04.02.2005

Priority date (day/month/year)  
18.02.2004

International Patent Classification (IPC) or both national classification and IPC  
A61B5/06

Applicant  
PHILIPS INTELLECTUAL PROPERTY & STANDARDS GMBH

**1. This opinion contains indications relating to the following items:**

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

**2. FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

**3. For further details, see notes to Form PCT/ISA/220.**

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/IB2005/050467

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**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material:  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing:  
☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

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**Box No. V Reasoned statement under Rule 43b/s.1(a)(I) with regard to novelty, inventive step or  
industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	1-10
	No: Claims	
Inventive step (IS)	Yes: Claims	4-7
	No: Claims	1-3, 8-10
Industrial applicability (IA)	Yes: Claims	1-10
	No: Claims	

2. Citations and explanations

**see separate sheet**

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

1. Reference is made to the following documents:

D1: US-B1-6 192 144 (HOLZ DIETRICH J. K) 20 February 2001 (2001-02-20)

D2: EP-A-1 174 082 (BIOSENSE, INC) 23 January 2002 (2002-01-23)

2. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of independent claims 1 and 9 does not involve an inventive step in the sense of Article 33(3) PCT.

Further, dependent claims 2, 3, 8, 10 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect to inventive step.

- 2.1 With respect to independent claim 1, document D1 regarded as being the closest prior art discloses (the references in parentheses applying to this document):

A device for the determination of the position of an instrument in a vascular system (col. 1 lines 9-12), comprising:

a localizer fitted to the instrument (col. 3 lines 35-38), the spatial position of which can be measured (col. 3 lines 41-43; 103 fig. 2);

a data processing unit with a memory (col. 3 lines 32-33; lines 41-42; lines 47-49; 8, 14 fig. 1) in which a vascular map (col. 5 lines 40-43; 101 fig. 2;  $A(u,v,t_0)$  fig. 5) is stored, the data processing unit being set up to correct measured spatial positions of the localizer (col. 6 lines 10-14) taking into account the vascular map (col. 5 lines 40-44; lines 50-57) and a quality dimension, the quality dimension including a component measuring the deviation of the measured position of the instrument section from the vascular layout as represented by the vascular map (col. 5 lines 63-65; 106 fig. 2;  $T(u,v)$  fig. 5);

The subject-matter of independent claim 1 therefore differs from this known from document D1 in that:

- orientation of the instrument is measured in addition to its position;
- the component measuring the deviation of the measured position is weighted.

The problem to be solved by the present invention may therefore be regarded as how to improve the data taken into account when correctly localizing the instrument.

The solution proposed in claim 1 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT) for the following reasons.

Measurement of the orientation along with the position of an instrument is a common practice in the technical field of localizing catheters (see for example document D2 par. 6), and would be used by the skilled one, according to circumstances, without having resort to an inventive activity.

Likewise, weighting of components taken into account in the estimation of various physical dimensions is well known from the background art.

- 2.2 The same reasoning applies, *mutatis mutandis*, to the subject-matter of corresponding independent claim 9, which therefore is also considered not inventive.
- 2.3 With respect to dependent claims 2, 3, 8 and 10, it is observed that all the claimed features relate to details of the device for determination of the position of an instrument. These features are commonly implemented in such apparatuses known from the art. They would therefore be considered by the skilled one, when faced with the problem of selecting details of the position determination instrument, without having resort to an inventive activity. Specifically, following prior art documents are cited with respect to the corresponding claims:
  - claim 2: D1 col. 3 lines 35-39;
  - claims 3 and 10: D1 col. 6 lines 6-10;
  - claim 8: D1 col. 3 lines 51-54;
3. The features of claims 4, 5, 6 and 7 in combination with the features of the claims to which they refer are neither known from, nor rendered obvious by, the available prior art. Therefore, the aforementioned combinations of features meet the requirements of the PCT with respect to novelty, inventive step and industrial applicability.

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING  
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/IB2005/050467